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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,690	12/22/2005	Pctrus Johannes Walterus Maria Van Den Bosch	TS1406 US	9755
23632	7590	01/28/2008		
SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463			EXAMINER SINGH, PREM C	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 01/28/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,690	Applicant(s) VAN DEN BOSCH ET AL.	
	Examiner Prem C. Singh	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/22/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 11/22/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Form 1449 (sheet 1 of 1): Item number AT – Hydrocarbon Processing, January 1985, page 51-54, was not supplied by the Applicant, and therefore, was not considered.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings are not proper for reproduction. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 (line 4): It is not clear where the "heavy fraction" goes.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myrstad et al (WO 98/10036).

9. With respect to claims 1 and 2, Myrstad discloses a process for producing a pipeline transportable crude oil from a bitumen feed (See page 3, lines 9-11). The process comprises:

(1) Dividing the bitumen appropriately in two parts (See page 3, lines 11-12);

(3) Upgrading first part of the heavy oil (bitumen) by thermal cracking (See page 3, lines 11-16);

(4) Separating the upgraded oil into kerosene and distillate components (See page 3, lines 13-14);

(5) Combining the second part obtained in step (1) and light fraction obtained in step (4) to obtain a pipeline transportable crude oil (See page 3, lines 16-19).

Myrstad invention does not specifically disclose step (2), however, the invention does disclose that a typical untreated bitumen from Venezuela contains 15% middle distillates having boiling point between 150 and 350°C and 75% fuel oil having boiling point more than 350°C (See page 9, line 37; page 10, line 5, and 18-22). It is known to those skilled in the art that fuel oil is the required feed in thermal cracking and middle distillates are the value-added products needed in the process. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify Myrstad invention and separate the middle distillate portion (150 to 350°C fraction) in an additional step (2), and take only the heavy oil portion (>350°C fraction) into the thermal cracking reactor. This will enhance the middle distillate fraction to be used in step (5) and increase the production of pipeline transportable crude oil.

It is to be noted that Myrstad divides the bitumen in step (1) "appropriately". Thus, one skilled in the art would divide the bitumen feed for optimum operation in any proportion, including as claimed.

10. With respect to claims 3 and 4, Myrstad invention does not specifically disclose three (light, intermediate, and heavy) fractions. However, the invention does disclose two fractions ((54% middle distillates (150 to 350°C fraction) and 46% fuel oil (>350°C fraction)) (See page 10, lines 10-16). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify Myrstad invention and take out an additional cut of an intermediate fraction (350-510°C fraction) from the distillation

column, leaving only 510°C+ fraction as residue, as claimed, and add this intermediate cut in step (5) and enhance the overall production of pipeline transportable crude oil.

11. With respect to claim 5, Myrstad invention does not specifically disclose thermal cracking of the intermediate fraction.

Since the lighter components are more desired for blending in step (5), it would have been obvious to one skilled in the art at the time the invention was made to modify Myrstad invention and take the intermediate fraction (350-510°C fraction) to the thermal cracking unit to increase the production of lighter fractions to be used in step (5) and reduce the undesired heavy fractions.

12. With respect to claims 6-8, Myrstad invention discloses that the cracking is carried at a pressure of 1 to 10 atm (1 to 10 bar) and at bulk temperatures in the range of 200 to 500°C (See page 7, lines 4-6). In preferred embodiments, Myrstad conducts cracking in a hammer mill type of apparatus (See page 5, lines 15-16), however, one skilled in the art could use any apparatus, including a soaker vessel as claimed, for an effective cracking.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Buchanan et al (US Patent 4,994,172).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prem C. Singh whose telephone number is 571-272-6381. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PS /010908



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